

Cutaneous Leishmaniasis: a rare imported case

Hla OO¹ and Aung LWIN²

¹ Department of Pathology, Raja Isteri Pengiran Anal Saleha (RIPAS Hospital), and

² Department of Surgery, Suri Seri Begawan Hospital (SSBH), Brunei Darussalam

ABSTRACT

Leishmaniasis is vector-borne parasitic disease. It is one of the world's poverty-related diseases, affecting largely the underprivileged section of the society in endemic countries. In non-endemic countries like Brunei Darussalam, it is a forgotten disease. Leishmaniasis can be classified into three types - cutaneous, mucocutaneous and visceral leishmaniasis. With the increase in international travel, migration, overseas military exercises, and Human Immune Deficiency Virus (HIV) co-infection, leishmaniasis is nowadays becoming more prevalent throughout the world. Cutaneous leishmaniasis (CL) may present mainly with solitary scaly papular lesion which may progress into nodule to rounded ulcer with raised margin. The ulcerated lesion may be misdiagnosed as skin cancer, tuberculosis and fungal infection especially to the unfamiliar and unwary eyes in the non-endemic regions. An imported case of CL is herein presented to draw the attention of health care providers to the possible occurrence of CL in Brunei Darussalam.

Keywords: Leishmaniasis, Kala Azar, sandfly, smears, biopsy diagnosis

INTRODUCTION

Leishmaniasis is a vector-borne protozoal disease caused by intracellular protozoan parasite of genus *leishmania*. Human are infected by bites of *Phlebotomus* female sand fly which breeds in forest areas, caves, cracks of stone, abode brick houses, niches and walls, animal burrows, bird nests and latrines. It is one of world poverty related diseases affecting the poorest of the poor mainly in the developing endemic countries.^{1,4}

The leishmaniasis is usually categorised according to clinical disease pattern as cutaneous, mucocutaneous and visceral leishmaniasis. The disease is also categorised with regard to geographic occurrence as Old World leishmaniasis and New World leishmaniasis. The disease is endemic in 98 countries such as North Africa, Middle East, Indian Subcontinent, Central and South America including Belize and Southern Europe. The South East Asian countries including Brunei Darussalam, Australia and Pacific islands, Canada are categorised as non-endemic countries. Chile, Uruguay although surrounded by regions of endemicity of leishmaniasis are also categorised

Correspondence author: Hla OO
Department of Pathology, RIPAS Hospital, Jalan Tutong, Bandar Seri Begawan BA 1710, Brunei Darussalam.
Tel: +673 2242424 Ext 506
E mail: hlao39@yahoo.com

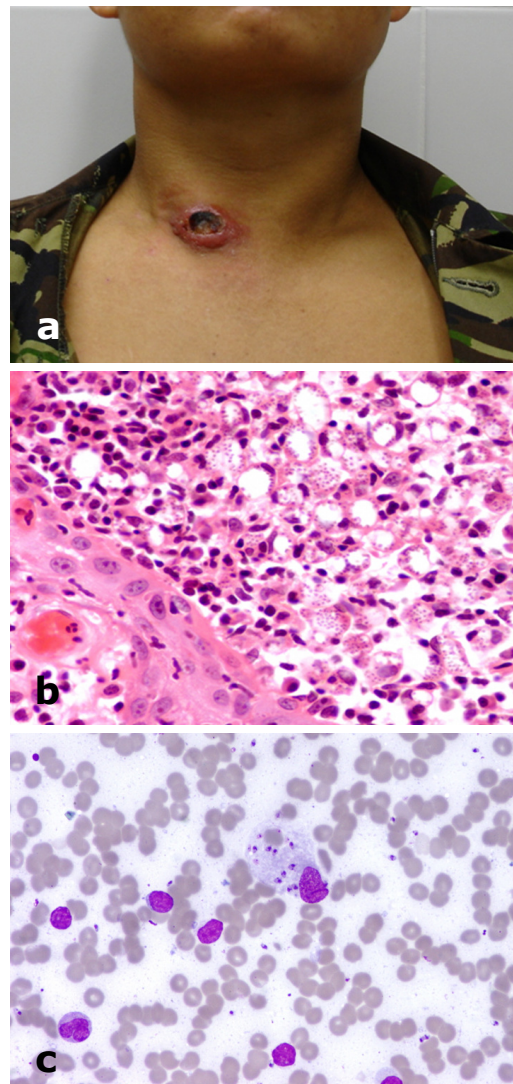
as non-endemic countries. The annual incidence of leishmaniasis in endemic countries is 0.7-1.2 million cases of cutaneous and 0.2-0.4 million cases of visceral leishmaniasis respectively.^{2,3}

We reported a rare case of an imported case of cutaneous leishmaniasis (CL) to Brunei Darussalam, the first such case to be reported.

CASE REPORT

A 34-year-old Gurkha soldier presented to surgical out-patient department of the Suri Seri Begawan Hospital (SSBH) with a solitary painless skin ulcer, 4.4 cm in diameter, in the anterior aspect of lower neck region for six month duration in 2005. Ulcer is said to develop two months after he came back from tour of duty in Central America including military exercises in the jungle of Belize. On examination, a large nodular erythematous lesion with central ulceration having raised margin was found (Figure 1a). There were no palpable neck glands, no hepatosplenomegaly and no systemic manifestations.

Laboratory investigations showed normal haemoglobin level (14.5 gm/dl, range 12.5 to 17), total white cell count (5.7×10^9 , range 4.0-11.0) with neutrophils 44.1%, lymphocytes 42.6% and monocytes 8.8%. The liver function test was normal. A wedge biopsy and smears were done which showed Amastigotes form of leishmania (Leishman-Donovan bodies) in the cytoplasm of dermal macrophages (Figures 1b and 1c). The diagnosis of CL was made. The patient was informed of the diagnosis but he left the country for the United Kingdom to be treated there.



Figs 1: a) a nodular erythematous lesion with central ulceration and a raised margin, b) Histology showing many dermal histiocytes with Leishman-Donovan bodies (LD bodies indicated by an arrow) (H&E stain, x20), and c) Leishman stain of smear showing many free lying as well as intracytoplasmic L-D bodies (x20).

DISCUSSION

Leishmaniasis can present with three clinical patterns such as Cutaneous, Mucocutaneous and Visceral Leishmaniasis (Kala Azar). The estimated incidence is 0.7-1.2 millions/year of CL and 0.2-0.4 millions of Visceral leishmaniasis. The majority of cases of Visceral Leishmaniasis occur in India, Bangladesh, Nepal,

Sudan and Brazil and causes 50000 deaths annually. Ninety percent of CL occurs in Afghanistan, Pakistan, Syria, Saudi Arabia, Algeria, Iran, Brazil and Peru. The incidence of Leishmaniasis is increasing due to international travel including adventure travellers, bird watchers, migration and military exercises and deployments in countries such as Afghanistan and Iraq, posting of Peace Corps volunteers, missionaries in endemic regions and occurs as HIV co-infection.

CL is caused by *L. tropica* in West Asia, Middle East and Africa; and *L. mexicana* in Central and South America via the bite of Phlebotomus female sandfly. CL can rarely occur after accidental laboratory exposure, via transfusion with infected blood and shared needle users of drug addicts. The incubation period ranges from weeks and months. It is usually presented with chronic but self-limited skin lesion which started as a skin papule or nodule progressing into painless ulcer with raised edges with variable surrounding skin induration. It gradually healed in months or years with formation of depressed scar. It usually occurs as solitary lesion but satellite nodules may be present.

There are two types of CL; Leishmaniasis recidivans and Diffuse CL. Leishmaniasis

recidivans is characterised by tuberculoid lesions developing around scars of healed skin ulcers. The parasite count is low. It was chronic and resistant to treatment. Mortality was low. Diffuse CL characterised by dissemination of skin lesion over the face, hands, and feet. It occurs owing to poor cell-mediated immune response. The parasite count is high. It was chronic and resistant to treatment. Mortality was low.

In conclusion, we report this imported case of CL to draw attention of health care providers to the possible occurrence of CL in Brunei Darussalam which is a non-endemic country. It is important to be aware that leishmaniasis is nowadays becoming more prevalent due to population movement.

REFERENCES

- 1: Leishmaniasis. CDC Health Information for International Travel, 2010, Chapter 4
- 2: Stark CG, Cunha BA et al. Leishmaniasis, Medscape, 5 May, 2014
- 3: David CV, Craft N. Cutaneous and mucocutaneous leishmaniasis. *Dermatol Ther.* 2009; 22:491-502.
- 4: World Health Organization Technical Report Series 949, Control of Leishmaniasis, Geneva, March 22- 26, 2010.